

# Energy Storage System Operating Mode Setting



# **Global Leading Inverter Brand** 1.33+<sub>million</sub> 200+ 70+ 100+

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## 1、 Inverter Models

After TL-XH series connect with BDC, the time period of the BDC can be set. The following models include in this series:

MIN 2500TL-XH、MIN 3000TL-XH、MIN 3600TL-XH、MIN 4200TL-XH、MIN 4600TL-XH、MIN 5000TL-XH、MIN 6000TL-XH

Please make sure the inverter is the latest firmware version and is a single-phase inverter model with RS485 port.

## 2、 Operating Mode Setting

The BDC time setting function enables the inverter to run different modes in different time periods. The modes that can be set include: load first, battery first and grid first. In the battery first mode, if you need to take power from the grid, please enable the grid charging function in advance.

**Note:** When the BDC time is set, the start time of the latter period must be greater than the end time of the previous period.

# 3、 Setting

Please ensure that the inverter and BDC communication are normal and in the on-grid state. After set the BDC priority time period and enable the grid charging function, the inverter will run continuously according to the set priority mode and time period. This document describes four BDC time setting methods.

## 3.1. Setting through OLED

	The inverter can support n	nultiple touch modes: single touch, two						
	consecutive touches, three	consecutive touches, and long press 5S.						
	Different touch methods have different functions. Advanced setup							
OLED	password: 123							
Touch	Touch Methods	Definition						
instructions	Single Touch	Move, page turning or number add 1						
	two consecutive touches	Enter setting mode or confirm the setting						
	Three consecutive touches	Return to the previous page						
	Long press 5S	Data zeroing						

Table.1. OLED Touch Button instructions

The OLED can only set three time periods, and the start time of the latter time period must be greater than the end time of the previous time period.

First a single touch to enter the "Set Parameter" interface, select "Advanced " and enter the password, press twice to enter the "Storage Setting", select "Time Period" to set the BDC priority time period: first select the priority mode, Touch twice to enter the time setting, select whether to enable the setting, and then touch twice to set successfully. The schematic diagram of the OLED flow is as follows:



Figure.1. OLED Setting Flows

#### 3.2. Setting through ShineServer

If the inverter is monitored online via the Growatt monitoring system, you can setting the mode and time periods via ShineServer. First login to ShineServer, click "Plant" and go to the "Device List" interface, select to enter "Min", you can see the inverter list. Select the inverter and click the setting icon to enter the setting interface.



Figure.2. Indication of setting the inverter on the ShineServer

Select the time period you want to set, select the priority mode and fill in the end time and start time. Finally, select whether to enable it. After entering the password, click Save to successfully set it.

Setting				>	
() Set active power rate		3	>> Not memory >>		
O Set reactive power rate	1	PF fixed 1 -	Not memory *		
○ Set Time		2019-07-06 16:29:4			
🔾 Connect Vac High		253.0			
Connect Vac Low		195.5			
🔿 Connect Fac High		50.05			
Connect Fac Low		47.55			
en en la ser se			Descent		
Set ExportLimit		50	Percent		
<ul> <li>Default power after anti-backflo failure</li> </ul>	244	0.0	<i>w</i>		
O Dry contact function		Off ~			
O Dry contact power		(\$0.0	96		
O Dry contact off power		(40.0	96		
		Natahaara			

Figure.3. Indication of setting the mode and time periods on shineserver

#### 3.3. Setting through ShinePhone

If the inverter is monitored online via the Growatt monitoring system, you can set mode and time periods via the ShinePhone. First login to the shinephone, click on "Plant" to see the inverter list. Select the inverter, enter the details page and click the "Control" to enter the setting interface.



Figure.4. Indication of finding the setting interface on ShinePhone

Select "Set the priority of charging and discharging period", enter the password, select the time period, the priority mode, then select end time and start time, finally select whether to enable it. Click "Yes" to set it successfully.

CHENGYONG2	12	CHENGYONG2	<	CHENGYONG2	Yes
			Time period 1		
Dry contact	Set inverter		9:0~11:0	>	
The percentage of power that the dry contact is open	Set active po		Grid first •	On •	
The closure power percentage of dry contact	Set reactive		Time period 2		0
Power meter	Set	Note	Battery first	On •	
Set the priority of charge and discharge period	Ov Not	allowed for unauthrorized	Time period 3		0
Manual off-network enable	Un syster	m stop working.Please enter password	W:1~18:0	>	
Set EPS On/Off	Ovi		Battery first •	On •	
Set EPS frequency	Uni		Time period 4	x I	(
Set EPS voltage	Sei C	ancel Yes	Grid first •	On •	
CV voltage	Default power failure		Time period 5		(
CC current	Dry contact		17:1~18:0	>	
LCD language	The percents is open		Battery first •	On •	
	The closure		Time period 6	>	[

Figure.5. Indication of setting the mode and time periods on ShinePhone

## 3.4. Setting through ShineBus

To set up the inverter with ShineBus, you need connect the inverter to the host computer with the communication cable, connect the RS485 port to the BAT COM 1-2 pin of the inverter, and connect the USB port to the host computer.

After connect the communication cable, first, click "Configuration" to use ShineBus to read the inverter information to ensure that the inverter communicates successfully with the host computer; After that, enter the "BDC Time Set" interface and write "start time" and "end time" (note: The start time of the next time period must be greater than the end time of the previous time period. After selecting the priority mode, select "Enable" and click "Time", when display "Set Successfully" means the setting is enable now. To read a single time period, please select "Read" and click "Time" to successfully read the single time period priority mode and time data.

nput Info	Part: COM14	•	Baudrate: 9600	•	Address 1		Period: 1000		Ð	port L	n Help
Device Info	System Info Ff Ver:	ALL 0 (ALas-0305	30)	State Info Status: E Teday:	OnGrid 7. BMD	Count down: E Total:	60 53. 31/0	AC Info AC Volt (V)	224.7		
BDC Info	SN	CH209770092		Fout Active:	4887.3W	Pout Apparent: Power:	4857VA -3828	AC Curr (A) AC Fower (VA)	21.7 4857		
BDC Time Set	Rode: Protocol Ver:	S0AB00B00T00P0F0 V1. 49	101#003C	Error 1	null	¥ara:	sall	AC Freq (Hz)	49.96		
Configuration	INFO							PV Info FV Volt (V)	PV1 257.6	1772 257.9	
Farmeter								FV Curr (A)	3.5	3.3	
Ff Undate								Inner Info	*B1/5	-BUS	IVS
								Volt (V)	390.7 INV	0 Inner1	390.7
Settings								Temp (* C) ISO (kR):	67.3 65530	57.6	
Modbus Test								Derate Model	0		
eart Diagnosis								FV Hode:	7 m	rallel detected	
AutoTest											

Figure.6. Indication of read information of inverter on ShineBus

Input Info	Port: COM7	•	Baudrate	• 9600 •		Address 1	Period: 1000	Export	Lan B	Help
Device Info		Start	End							
		00:00	00:00	0. Load First		Enable Read Tinel				
BDC Info		00:00	00:00	0. Load First	•	Enable East Time2	]			
BDC Time Set		00.00	00:00	0. Load First	•	Enable Esad Time3				
		00:00	00:00	0. Load First	•	Enable Read Tine4				
Configuration		00.00	00:00	0. Load First	•	Enable E Read Time5	]			
Parameter		00:00	00:00	0. Lord First	•	Enable E Kead				
FF Update		00.00	00:00	0. Load First	•	Enable E Read Time7	]			
		00:00	00:00	O. Load First	•	Enable Easd Time8	2			
Settings		00:00	00:00	0. Load First	•	Enable E Read Time9				
Wodbus Test										
Seart Diagnosis										
AutoTest				0	Re	sd all 威功!				

Figure.7. Indication of setting the mode and time periods on ShineBus

Input Info	Port: COM7	-	Baudrate	: 9600 🗸		Address 1	Period: 1000	Export	Lan	Help
Device Info		Start	End							
		00:00	00:00	0. Load First	•	Enable E Read Timel				
BDC Info		00.00	00:00	0. Load First	•	Znable Zead Time2				
BDC Time Set		00:00	00:00	0. Load First	•	Enable Read Time3				
Confirmation		00:00	00:00	0. Load First	•	Enable Esad				
Configuration		00:00	00:00	0. Load First	٠	Enable Read				
Parameter		00:00	00:00	0. Lond Pirst	-	Enable E Read Time5				
FW Update		00:00	00:00	0. Load First	•	Enable Esad				
		00:00	00:00	0. Load First	•	Enable E Read Time8				
Settings		00:00	00:00	0. Load First	•	Enable E Read				
Nodbus Test										
Seart Diagnosis										
AutoTest				0	Res	el all 成功!				

Figure.8. Indication of reading the mode and time periods on ShineBus

## 4, BDC Mode Real Test

The MIN series inverters have realized that the inverters operate different priority modes in different time periods. Set the load first, battery first and grid first separately. We can observe the priority mode of the device through the monitoring device.

Taking the PV1000W and the load power 2000W as examples, the load first, battery first and grid first operation status are observed respectively. As shown in the figure below, it can be monitored that the inverter operates normally in different modes.



Figure.9. Load first



Figure.10. Battery first



Figure.11.Grid first